



Op 1745

PATENT
0171-0784P

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IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: MARUO, Tatsuya et al. Conf.: 9441
Appl. No.: 09/955,432 Group: 1745
Filed: September 19, 2001 Examiner: CHANEY, CAROL
For: ION-CONDUCTIVE COMPOSITION, GEL
ELECTROLYTE, NON-AQUEOUS ELECTROLYTE
BATTERY, AND ELECTRICAL DOUBLE-LAYER
CAPACITOR

INFORMATION DISCLOSURE STATEMENT
(SUBMISSION AFTER FILING OF AN APPLICATION
BUT BEFORE FINAL REJECTION OR NOTICE OF ALLOWANCE
OR CONCURRENTLY WITH A RULE 1.114 RCE APPLICATION)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

November 17, 2003

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, applicant(s) hereby submit(s) an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS OR OTHER INFORMATION

The patents, publications, or other information submitted for consideration by the Office are listed on the PTO-1449(s), attached hereto.

II. COPIES (check at least one box)

- a. ☒ This application was filed before June 30, 2003. Accordingly, submitted herewith is a legible copy of (i) each U.S. and foreign patent; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed.
- b. ☐ This application was filed on or after June 30, 2003. Accordingly, copies of cited U.S. patents and patent application publications therefore are not included. Copies of foreign

patent documents and non-patent literature are included.

- c. ☐ Some or all of the documents listed on the PTO-1449 are not enclosed because they were cited in the International Search Report and copies should already be in the PTO file. If copies are needed, please contact the undersigned.

III. CONCISE EXPLANATION OF THE RELEVANCE

(check at least one box)

- a. ☐ **DOCUMENTS IN THE ENGLISH LANGUAGE**

The patents, publications, or other information listed on the attached PTO 1449 are in the English language and therefore, do not require a statement of relevancy.

- b. ☐ **DOCUMENTS NOT IN THE ENGLISH LANGUAGE**

A concise explanation of the relevance of all patents, publications, or other information listed that is not in the English language is as follows:

- c. ☒ **ENGLISH LANGUAGE SEARCH REPORT**

An English language version of the search report or action that indicates the degree of relevance found by the foreign office is attached, thereby satisfying the requirement for a concise explanation. See MPEP 609(III)(A)(3).

- d. ☒ **OTHER**

The following additional information is provided for the Examiner's consideration.

U.S. Patent No. 6,433,996 is in the same patent family as WO 0057439. U.S. Patent Nos. 5,912,093 and 5,665,265 and EP 524,718 were previously filed in an IDS on July 7, 2003.

FEES

IV. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. § 1.97(b):
(check one box)

- a. ☐ within three months of the filing date of a national application (37 C.F.R. § 1.97(b)(1)). No fee or statement is required. *(This section is not to be used with RCE's.)*
- b. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. § 1.97(b)(2)). No fee or statement is required.
- c. ☐ concurrently with the filing of a Request for Continued Examination under § 1.114 (37 C.F.R. § 1.97(b)(4)). No fee or statement is required.
- d. ☒ before the mailing date of a first Action on the merits (37 C.F.R. § 1.97(b)(3)). No fee or statement is required.
In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the statement under 37 C.F.R. § 1.97(e) below, or, if no statement has been made, charge our deposit account in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).

V. ☒ THIS IDS IS BEING FILED UNDER 37 C.F.R. § 1.97(c):
(check one box)

before the mailing date of a Final Office Action under 37 C.F.R. § 1.113 (See 37 C.F.R. § 1.97(c)(1)) or before the mailing date of a Notice of Allowance under 37 C.F.R. § 1.311 (See 37 C.F.R. § 1.97(c)(2)).

- a. ☐ No statement; therefore, a fee in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).
or
- b. ☒ See the statement below. No fee is required.

VI. STATEMENT UNDER 37 C.F.R. § 1.97(e) (check only one box)

The undersigned hereby states that

- a. ☐ each item of information contained in the IDS was first cited in any communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS; or
- b. ☐ no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of the IDS.
- c. ☐ Some of the items of information were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was first cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application and, to the best of my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this statement.

VII. PAYMENT OF FEES (check one box)

- ☐ A check in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p) is enclosed for the above-identified fee.
- ☐ Please charge Deposit Account No. 02-2448 in the amount required by 37 C.F.R. § 1.17(p) for the above-indicated fee. A triplicate copy of this paper is attached.
- ☒ No fee is required.

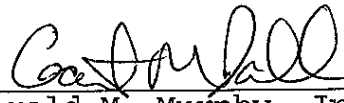
Appl. No. 09/955,432

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule and charge the appropriate fee to Deposit Account No. 02-2448.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

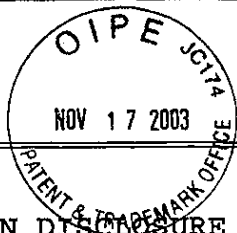
By  #43575
Gerald M. Murphy, Jr., #28,977 for

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0171-0784P

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Attachment(s): ☒ PTO-1449
☒ Documents
☒ Foreign Search Report
☐ Fee
☐ Other:

(Rev. 09/30/03)



Form PTO-1449

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

ATTY. DOCKET NO.
0171-0784PAPPLICATION NO.
09/955,432APPLICANT
MARUO, Tatsuya et al.FILING DATE
September 19, 2001GROUP
1745NOV 24 2003
TC 1705

RECEIVED

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	Kind	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	US 5,558,959		1996-09-24	Venugopal et al.			
	US 6,433,996	B1	2002-08-13	Hata et al.			
	US						
	US						
	US						
	US						
	US						

FOREIGN PATENT DOCUMENTS

	Office	DOCUMENT NUMBER	Kind	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
								YES	NO
	DE	19855889	A1	2000-06-08	GERMANY (W/ABSTRACT)				
	WO	0057439	A1	2000-09-28	PCT (W/ABSTRACT)				
	EP	1134758	A1	2001-09-19	EPO				
	DE	19713072	A1	1998-10-01	GERMANY (W/ABSTRACT)				

OTHER DOCUMENTS

(Include Name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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Datum/Date

09.10.03

Zeichen/Ref./Réf. IS/EP5958228	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 01307966.0
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire NISSHINBO INDUSTRIES, INC.	

COMMUNICATION

The European Patent Office herewith transmits

- ☒ the European search report
- ☐ the declaration under Rule 45 EPC
- ☐ the partial European search report under Rule 45 EPC
- ☐ the supplementary European search report concerning the international application under Article 157(2) EPC relating to the above-mentioned European patent application. Copies of the documents cited in the search report are enclosed.

The following specifications given by the applicant have been approved by the Search Division :

- ☒ Abstract
- ☒ Title
- ☐ Figure
- ☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.
- ☐ The following figure will be published with the abstract, since the Search Division considers that it better characterises the invention than the one indicated by the applicant.
- Figure:
 - ☒ Additional copy(copies) of the documents cited in the European search report.

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.

VB



EPO Form 1507 02.93



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-6

Claims 1-6 are directed towards ion conductive compositions and a gel electrolyte comprising a thermoplastic resin, an ion-conductive salt and a non-aqueous solvent. The thermoplastic resin has a swelling ratio from 150 - 800 % in the electrolyte solution.

2. Claims: 7-17

Claims 7-12 concern a non-aqueous electrolyte battery comprising a positive and a negative electrode, a separator and an electrolyte solution. One or both electrodes are current collectors coated with a binder composition composed primarily of an electrode active material and a thermoplastic resin with a swelling ratio from 150 - 800 % in the electrolyte solution. The separator may be a separator base impregnated with an electrolyte solution or also a thermoplastic resin swollen in an electrolyte solution.

In claims 13 -17 an electrical double layer capacitor is described being composed of a pair of polarizable electrodes, a separator and an electrolyte solution. One or both electrodes are current collectors coated with a binder composition comprising activated carbon and a thermoplastic resin with a swelling ratio from 150 - 800 % in the electrolyte solution. The separator may be a separator base impregnated with an electrolyte solution or a thermoplastic resin swollen in an electrolyte solution.

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 524 718 A (GENSIA PHARMA) 27 January 1993 (1993-01-27) * page 2, line 51 - line 56 * * page 4, line 35 - page 5, line 53 * * page 6, line 2 - line 6 * * examples 7,10 * * tables V,VIII *	1,5	H01B1/12 H01M10/40 H01M4/62 H01G9/00 H01M2/16
X	US 5 665 265 A (ESCHBACH FLORENCE O ET AL) 9 September 1997 (1997-09-09) *abstract* * column 3, line 9 - line 17 * * column 3, line 37 - column 4, line 11 * * example 1 * * claims 1-8 *	1,5	
X	US 5 912 093 A (WEN TEN-CHIN ET AL) 15 June 1999 (1999-06-15) * column 1, line 40 - column 4, line 37 * * examples 2-4 * * claims 1,8,21 *	1,5	
X	US 5 558 959 A (VENUGOPAL ET AL.) 24 September 1996 (1996-09-24) * column 2, line 55 - column 7, line 6 * * example 1 * * figures 1,3 * * claims 1-7 *	7-12 13-17	H01B H01M H01G
X	DE 198 55 889 A (BASF AG) 8 June 2000 (2000-06-08) * page 2, line 1 - line 6 * * page 4, line 11 - page 6, line 19 * * page 6, line 53 - page 7, line 31 * * page 8, line 3 - page 9, line 31 * * examples 1-4,6-8,10,11 * * table 5 * * claims 1-10 *	7-12	
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 25 September 2003	Examiner Götz, H
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
P,X	WO 00 57439 A (HATA KIMIYO ; SATO TAKAYA (JP); NISSHIN SPINNING (JP)) 28 September 2000 (2000-09-28) -& EP 1 134 758 A (NISSHIN SPINNING) 19 September 2001 (2001-09-19) * paragraph [0001] * * paragraph [0015] * * paragraph [0017] - paragraph [0024] * * paragraph [0051] - paragraph [0057] * * paragraph [0062] - paragraph [0087] * * example 9 * * claims 1-8 *	13-17	
Y	DE 197 13 072 A (BASF AG) 1 October 1998 (1998-10-01) * page 2, line 3 - line 7 * * page 3, line 31 - line 45 * * page 7, line 32 - line 58 *	13-17	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
5	Place of search MUNICH	Date of completion of the search 25 September 2003	Examiner Götz, H
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 01 30 7966

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-09-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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			WO	0057439 A1	28-09-2000
			US	6576372 B1	10-06-2003
			US	6433996 B1	13-08-2002

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			CN	1257612 T	21-06-2000
			DE	59805317 D1	02-10-2002
			WO	9844576 A1	08-10-1998
			EP	0970529 A1	12-01-2000
			ES	2183353 T3	16-03-2003
			JP	2001516496 T	25-09-2001
			ZA	9802550 A	27-09-1999